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
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IV. *A Letter from the Reverend Mr. Edmond Barrel, Rector of Sutton in Kent, to Sir Hans Sloane, Baronet, President of the Royal Society and the College of Physicians, concerning the Propagation of Misselto.*

S I R,

IT hath been my Purpose, ever since the Death of our late worthy Friend Mr. *Hill*, to communicate to you, (if you would please to accept of it) an Account of the Growth of *Misselto* from the Seed: and I have delayed it from Year to Year, not only to be better assured in my Experiments, and to find whether the World had not already, or would not be in the mean Time, better informed of this, by some other Hand: But I was also in hopes to have been so successful some Year or other, as to have been able, to send you and the *Royal Society*, some Specimens of the seedling Plants, both of the first and second Years growth together. I am sorry that I cannot do this now, and for that reason should have delayed this Account, till another Year. But your kind Acceptance of so small a Curiosity as I sent lately, obligeth me to a present Compliance with your Request.

The Berries of *Misselto* have within their viscid Pulp a Kernel covered with a thin whitish Skin; the inward Substance whereof is deeply green, and harder than the Substance of a *Pistachio*-Nut's Kernel. It is flattish, and shaped sometimes like a Heart thus ; sometimes oblong thus, ; both are as truly

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Seed,

Seed, as any Plant can have. Those of the oblong Shape put out but one *Germen* ; those like an Heart, have two, which prove two distinct Plants.

Sir *John Colebatch* recommends the sowing this Seed by way of Inoculation : Accordingly in *Feb.* 1713, I endeavoured to place the Berries, within the Bark of *Oak, Ash, Beech, Pear,* and *Apple*-trees, by making several Cuts and Gashes in the upright Sides of the Trees. The whole Berries would not stay in any of them ; and when I broke them, the Seed always slipped out to the Edge of the Cut, and then it stuck to the Bark, by virtue of the slimy substance wherewith it is encompassed. I also stuck one Seed on the bare Bark, without any cutting at all : This succeeded best, and being the Heart-like shape, gave me two Plants. For about the 28th of *March* 1719. this, with two more on the *Apple*-tree, and one on the *Pear*-tree, began to shoot ; and the Growth was in this manner :

The Viscous Matter having stuck the Seed on, and (as it dried) drawn the Seed close and flat down to the Bark of the Tree, there began, in *March* and *April*, to spring out of that end of the Seed, which had been toward the Eye of the Berry, a small deep green Shoot or Twigg, very like a short Piece of a little Clasper of the Vine. At first, it arose upward from the Bark, and then turning again, as it approached the Tree, it swelled out somewhat bigger round about the End ; yet leaving the very Tip or Bottom, quite flat, forming (as it were) a Foot to stand upon ; not unlike the bottom of some Brass Pestles. This Foot, when it came to the Bark, which was about *May* or *June* 1719, fixed it self thereon. Being thus fastned at both Ends, it made a little Arch, whose Diameter was as long as the Seed, or about $\frac{1}{6}$ of an Inch.

In this Condition, it remained all that Year, till about *March* or *April* 1720, and then that part or end of our little Seedling, which was joyned to the Bark, at the place where the Seed first shot forth, let go its hold, and raising it self upward, put forth Leaves, and became the Head of the Plant: and the other end, which sprung out first, and had taken footing in another Place, became the Root of the Plant.

'Tis no uncommon thing, for Seeds of *Ever-greens* to be two Years before they spring out of the Ground. And the change of the Ends, first one of them shooting out, and then the other, was what surprized me most at first; but on further reflexion I found, that Nature, even in this strange Plant, is uniform to her other Productions; in carrying the Sap first one way to form the Root, and then turning the Course of it back again to send out the upper parts of the Plant. The strangest and most wonderful part is, that the rooting End should make its first shoot into the open Air, and then turn it self down to find a proper Place to fix upon. Who could have supposed, that a Plant, whose Berry is the most orbicular of any, and therefore the least likely to lie quiet in any Situation, and whose proper place of growth is a round and wavering Bough, or upright side of a Tree, should after it is once fixed, leave its first footing, and seek out a new point in the Bark to grow upon.

This is indeed the great Secret of the matter, and seems to be the very thing that hath kept the World in Ignorance, about the growing of this Seed. For by requiring a new smooth Place of the Bark whereon to fix the rooting Part, it hath frustrated all attempts of sowing it in the usual way of other Seeds.

Theophrastus, (about two Thousand Years ago) seems to endeavour at a Reason, why this Seed could not grow in the Earth : But all that he, or any one since, hath said upon it, is only to agree, that in Fact it doth not, and to wonder why so perfect a Seed should not grow in the Earth. That Antient Author rationally concluded, from its having a Seed, that the Plant must come from that Seed: Whereas latter Times have been so fond of allowing Chance a share in the Productions of Nature, that *Scaliger* hath not only experimentally confuted the common Notion of *Misselto's* being sown in the Dung of the *Thrush*; but argueth also, very stenuously against the Possibility of this Plant's growing from its Seed. Even the great Lord *Bacon*, Sir *Thomas Brown*, *Lobel*, and the inquisitive Mr. *Ray* (so late as 1673,) do all give into it, that this Plant, hath a spontaneous and æquivocal, rather than a feminal and univocal Generation.

Scaliger's strongest Objection is, *Quod è Ramis quibusdam exit Viscus, quo in loco nullis modis vel stercus consistere, vel semen unquam potuerit hære — Nihilo enim commodius consistere quam in re proclivi Globum.* *Lobel* objects against it, because of the Imperfection of the Berry *Acinulo illo pallido pellucido.* Mr. *Ray's* Argument is, *Viscus innatus etiam in pronâ Ramorum parte.*

'Tis the property of true Experience to clear up Doubts, and answer Objections : And if Nature had been well examined, it would have appeared, that this Seed is of a substance equal to other Kernels; and that the Pulp of the Berry, wherewith the Seed is surrounded, is of a more clammy sticking nature than the Pulp of other Berries, for this very Purpose, that it might be of strength sufficient to fix the Seed on any Tree, how moveable or upright soever the Bough or Twig should be whereon it chanced to light. And

And doubtless the Birds are (tho' not by their Dung) Sowers of this, as they are of many other Seeds, which they carry away for Food ; but often drop in Places where they could otherwise never have come.

While I was writing this out for your Perusal ; I went to gather some *Mistletoe*-Berries (this being the Season that they are ripe, and fittest to be sown) and found a Leaf (which I send you) which hath a Seed sticking thereon ; doubtless by a casual Fall out of the Bill of some Bird, that has broken the Berry as she was eating it. There is both a dry string of the Slime, and a dry spot of the same, upon the Leaf, that show how the Seed was detained there, in this Case ; and how it must be done in like manner any where else.

When I acquaint you, Sir, that I have sown these Seeds, on near thirty sorts of Trees and Shrubs, and yet never had above ten Plants, that held out the second Year ; you will not wonder, at the little success, that others have had, in their trials of this Seed ; and will also see the Reason, why I have not been able to make many other Experiments about the growth of this Plant. However, some Casualties have furnished me with two or three ; which I beg leave to relate ; because they do somewhat further explain the Nature of this Plant's growing.

One of my little Plants sown in *Apr.* 1724. which was fixed at both Ends in its Arch-like Form, had in *Sept.* 1724, the middle part broken off ; the two Ends keeping still fast to the Tree. Which shews, how firmly the two Ends adhere, while it is in that state ; and they both continued green some time, and then withered away.

2. That

2. That one Seed, which grew on a *Pear-tree*, in 171 $\frac{1}{2}$, was the next Spring 171 $\frac{1}{2}$, loosened from the Tree at one End as the others were : Yet this seedling sprout, never put out any Leaves at all ; but continued in the same state, neither bigger nor less, near six Years ; that is, till it was broken off by chance in July 1725. This seems to me a very strange thing : For, a seedling Plant (of any kind) is, but as it were an *Embryo*, till it have put forth Leaves.

3. My most thriving pair of Plants, of the Year 171 $\frac{1}{2}$, being about three Inches in length, were on the 21st of May 1722, struck off, by the falling of a Rake-handle against them. They took away with them, only the outmost thin skin of the Tree ; and I could not see any signs, of deeper Rooting. But as I looked, now and then, on the Place, where the *Misselto* had grown, I thought, I observed the Bark to swell up a little ; and on the 12th of March 172 $\frac{1}{2}$, I perceived 3 or 4 little Budds, putting forth, and another Budd was put out by the 18th of March. They all grew on, to have Leaves that Summer ; and now Febr. 172 $\frac{6}{7}$, they are a Cluster of Boughs, of 4 or 5 Joints in height, and bore Berries this Winter ; whereas two others, on the same Tree, and which were also sown at the same time, in 171 $\frac{1}{2}$, and are 6 or 7 joynts in height, have not yet born any Berries.

The thriving of these Plants, so well again, after they were broken off ; made me reflect, on the *Druids* way, of cutting *Misselto* from the *Oak*, with a Golden Instrument ; a Metal not apt to take a good Edge, and possibly, the bluntness of the Instrument, might be a means, to preserve, a future growth, of the same Plant ; which, doubtless, they as well as we, find to be very rarely upon the *Oak*. I might suggest some Rea-

Reasons for this Scarcity, from the Nature of that Bark, and I might observe many mistakes, into which both Modern and Ancient Writers run, when they mention this Plant. But I have been so tedious already, that I will not trouble you, Good Sir, with any more than this one Observation; which is, that there is almost every Year, on most *Mistle-Bushes*, a visible Proof, that the Kernel hath a vegetative Life in it: For when the Berries hang on till *May* or *June*, the Seed will make its little shoot in the Berry, as the Kernels of Lemons, and you may see it coming out at the Eye of the Berry.
